



# Special Projects Office

James F. Carlini  
Director

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# Special Projects Office



## Dominate Surface Threats

- Moving, Emitting, CC&D
- Underground Facilities
- Entire Kill Chain
  - Surv-Combat ID-Engagement-BDA
- Emphasize Robustness

## Counter Emerging Threats

- Chem-Bio Defense Systems
- Cruise Missile Defense

## Critical Supporting Technologies/Systems

- Navigation
- Advanced Sensors
- Signal Processing



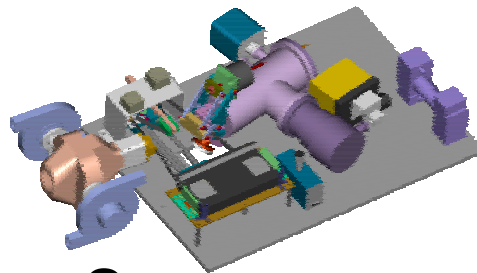
# Chem/Bio Defense Activities



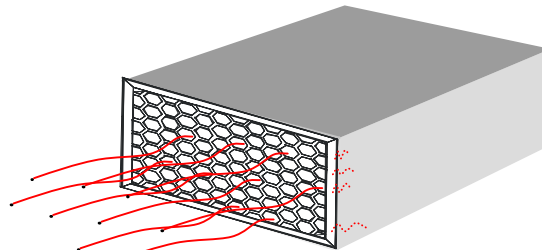
## Component Technologies

- Detectors/ID
- Reporters
- Fluidics
- Collector materials
- Decon agents

## Component Systems



– Sensors



– Filtration, etc.

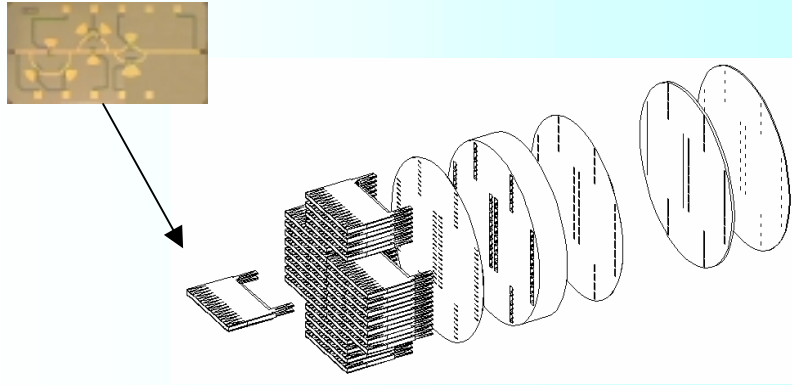
## Complete Defensive Systems



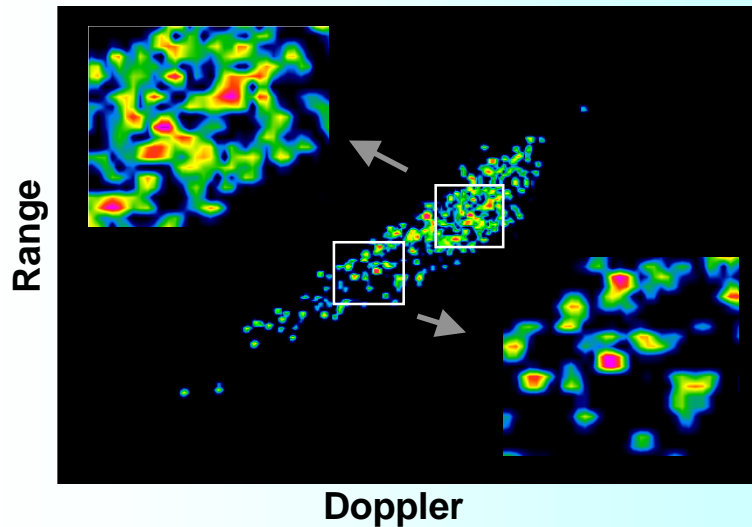
– Building Protection

## Seekers

### MEMS ESA Antenna

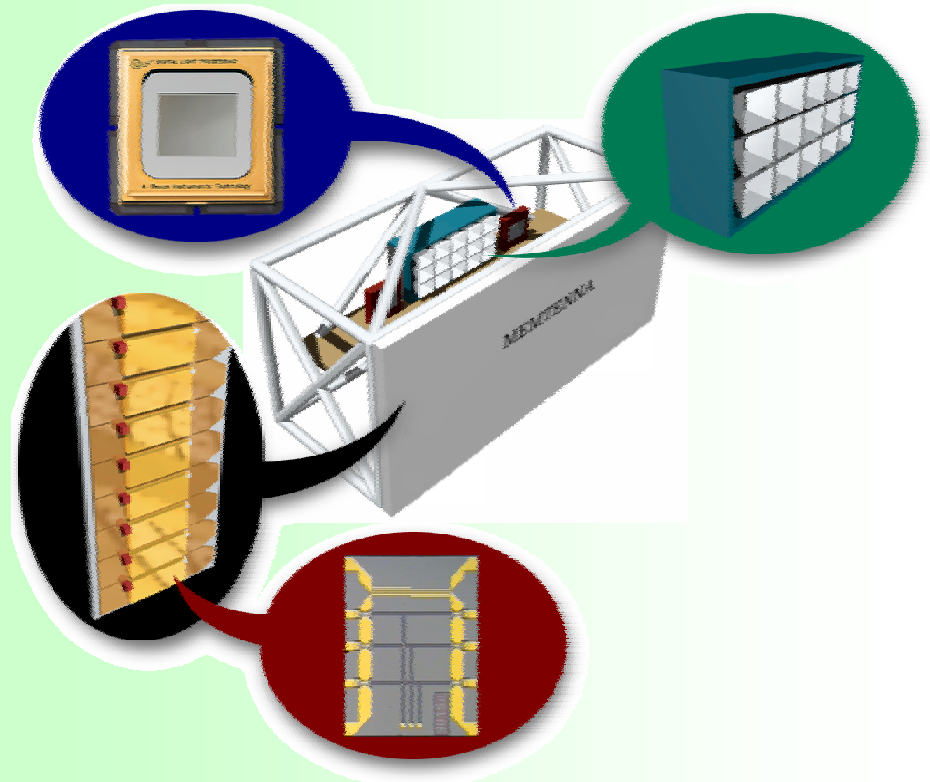


### Noise Radar Map



## Fire Control Sensors

### MEM-tenna



Foliage



Emitters



Underground



Decoys/Deception



Movers



Focus on Entire Kill Chain, Firepower, Affordability

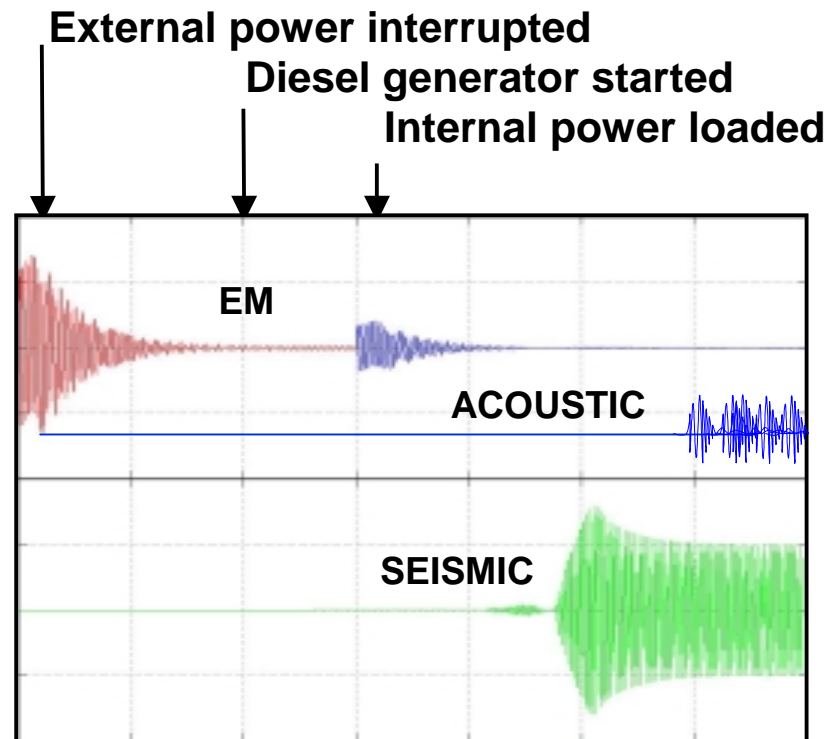




# Counter Underground Facilities



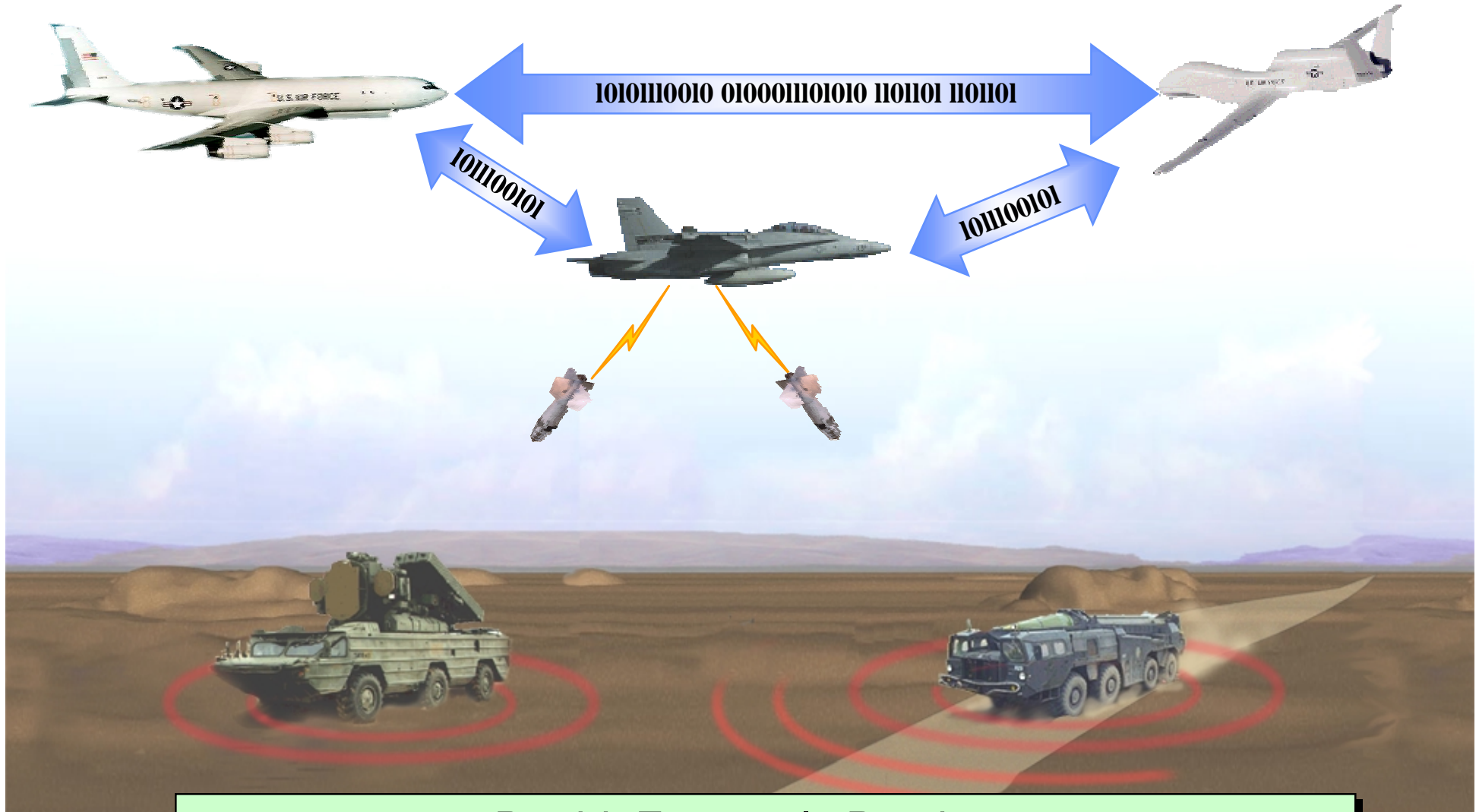
- Passive Acoustic, Seismic & EM (PASEM):
  - Detection and localization of UGF vulnerabilities and operational tempo



- Effluents Detection and Localization:
  - Vents / Facility Function / BDA



# Surface Targets – Movers and Emitters



Rapid, Extremely Precise,  
Networked Targeting and Engagement



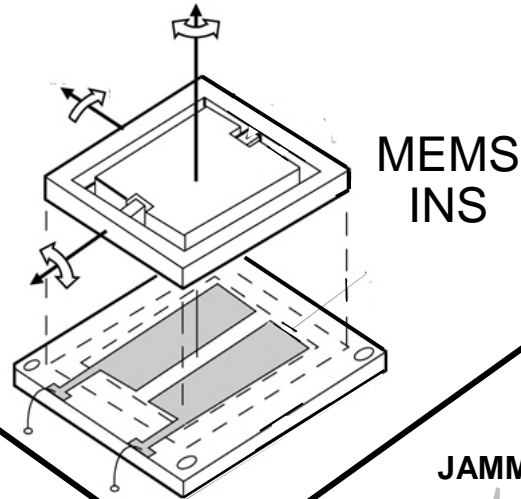
- Challenges:

- All-terrain GMTI
- Simultaneous ESM / GMTI / SAR
- Robust Terrain Characterization
- Combat Identification



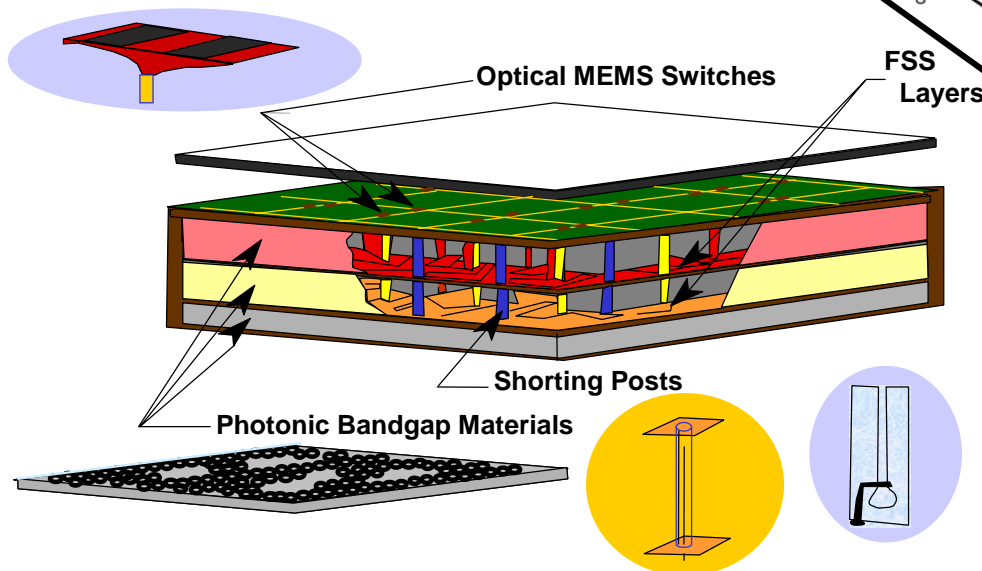
## Navigation

Robustness, Precision, Packaging



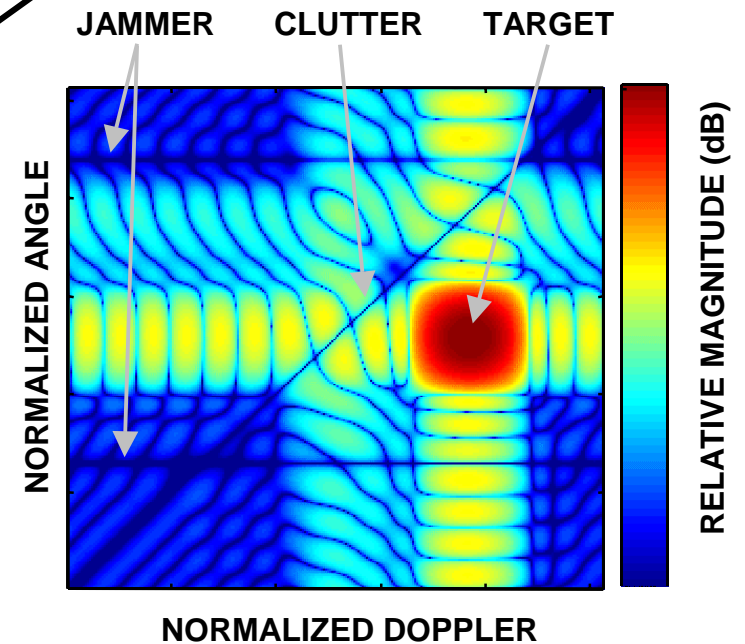
## Advanced RF

Radar, ESM, Comm



## Signal Processing

Robustness, ECCM





# Other Opportunities



- Tactical Networking Technologies
  - Wideband, low latency, reconfigurable
- Real-Time BDA
  - In-mission, all-weather
- Combat ID for Stressing Surface Threats



## Points of Contact



- 
- |                                       |  |
|---------------------------------------|--|
| • Chem-Bio Defense Systems            | Amy Alving,<br>Steve Buchsbaum,<br>Millie Donlon |
| • Low-Cost Missile Defense Technology | Ed Gjermundsen,<br>John Smith                    |
| • Underground Facilities              | Dan Cress,<br>Steve Buchsbaum                    |
| • Moving Targets (AMSTE)              | Steve Welby                                      |
| • Emitting Targets (AT3)              | Jim Carlini                                      |
| • Concealed Targets, Decoys           | Lee Moyer,<br>Bob Hummel                         |





## Points of Contact (continued)



- Tactical Targeting Networks
- Real-Time BDA
- Surface Target Combat ID
  
- Navigation Technologies
- RF Technologies
- Advanced Signal Processing

Peter Highnam

Steve Welby

Bob Hummel,  
Ed Gjermundsen

Greg Vansuch

John Smith

Joe Guerici